

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number
WO 2005/095624 A3

(51) International Patent Classification⁷: C12N 15/90, 5/00

(21) International Application Number:
PCT/EP2005/051464

(22) International Filing Date: 31 March 2005 (31.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04076057.1 2 April 2004 (02.04.2004) EP

(71) Applicant (for all designated States except US): DSM
IP Assets B.V. [NL/NL]; Het Overloon 1, NL-6411 TE
HEERLEN (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): DEKKER, Petrus,
Jacobus, Theodorus [NL/NL]; Vonkstraat 2, NL-2497 AE
DEN HAAG (NL). BERG, VAN DEN, Marco Alexander
[NL/NL]; Voorstraat 31B, NL-2685 EH POELDIJK (NL).

(74) Agent: PALLARD, Caroline, Chantal, P; DSM In-
tellectual Property, Delft Office (600-0240), P.O.Box 1,
NL-2600 MA DELFT (NL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

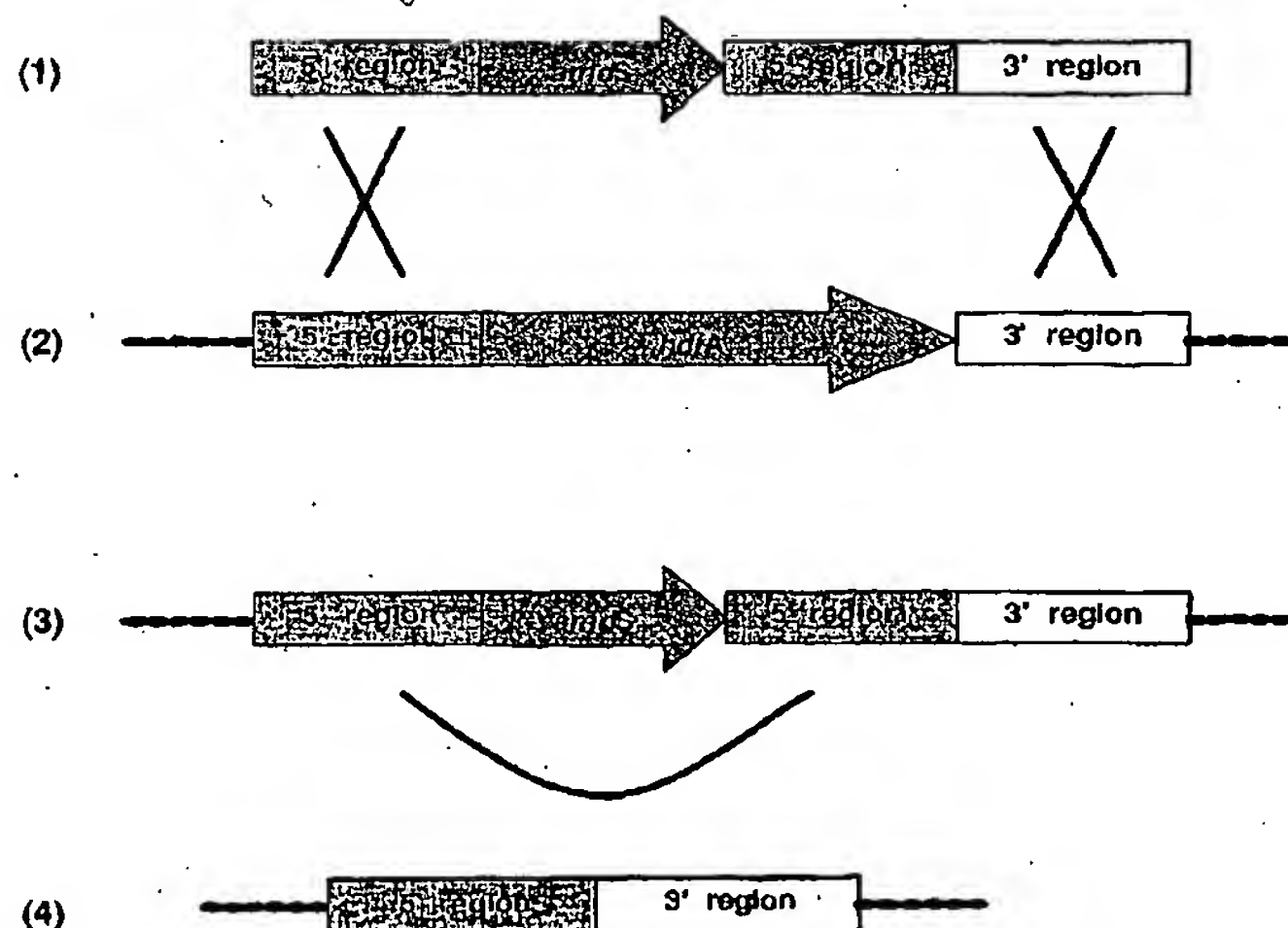
Published:

— with international search report
— with sequence listing part of description published sepa-
rately in electronic form and available upon request from
the International Bureau

(88) Date of publication of the International search report:
16 February 2006

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: FILAMENTOUS FUNGAL MUTANTS WITH IMPROVED HOMOLOGOUS RECOMBINATION EFFICIENCY



(57) Abstract: The present invention relates to a method for increasing the efficiency of targeted integration of a polynucleotide to a pre-determined site into the genome of a filamentous fungal cell with a preference for NHR, wherein said polynucleotide has a region of homology with said pre-determined site, comprising steering an integration pathway towards HR. The present invention also relates to a mutant filamentous fungus originating from a parent cell, said mutant having an HR pathway with elevated efficiency and/or an NHR pathway with a lowered efficiency and/or a NHR/HR ratio with decreased efficiency as compared to said HR and/or NHR efficiency and/or NHR/HR ratio of said parent cell under the same conditions.

WO 2005/095624 A3